

- B12
18. **[AMENDED]** A recombinant immunoglobulin heavy chain binding protein designated BiP(GRP78) and having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID. NO: 2.

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22. **[AMENDED]** A pharmaceutical composition for the treatment of rheumatoid arthritis in mammals, including humans, the composition comprising an anti-rheumatoid-arthritic amount of an isolated immunoglobulin heavy chain binding protein designated BiP(GRP78) or a fragment thereof, in combination with a pharmaceutically-suitable carrier.

23. **[AMENDED]** The pharmaceutical composition of Claim 22, wherein the immunoglobulin heavy chain binding protein is a recombinant immunoglobulin heavy chain binding protein.

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30. **[AMENDED]** A method for treating rheumatoid arthritis in a mammalian subject in need thereof, including a human subject, the method comprising administering to the subject an anti-rheumatoid-arthritic amount of immunoglobulin heavy chain binding protein designated BiP(GRP78) or a fragment thereof.

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32. **[AMENDED]** The method of Claim 30, wherein a recombinant immunoglobulin heavy chain binding protein is administered to the subject.

33. **[AMENDED]** The method of Claim 32, wherein a recombinant immunoglobulin heavy chain binding protein having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID NO: 2 is administered to the subject.

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40. **[AMENDED]** A method for diagnosing the presence of rheumatoid arthritis in a mammalian subject, including a human subject, the method comprising

contacting a bodily fluid from the subject selected from the group consisting of whole blood, blood plasma, blood serum, saliva, mucus, synovial fluid, and cerebrospinal fluid, to immunoglobulin heavy chain binding protein designated BiP(GRP78) or a fragment thereof, and then ascertaining the presence or absence of anti-immunoglobulin heavy chain binding protein antibodies in the bodily fluid tested, the presence of antibodies indicating the presence of rheumatoid arthritis in the subject.

41. **[AMENDED]** The method of Claim 40, wherein the bodily fluid is contacted with a recombinant immunoglobulin heavy chain binding protein
42. **[AMENDED]** The method of Claim 40, wherein the bodily fluid is contacted with an immunoglobulin heavy chain binding protein having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID. NO: 2.
43. **[AMENDED]** The method of Claim 40, wherein the presence of an anti-immunoglobulin heavy chain binding protein antibodies is ascertained using an enzyme-linked immunosorbent assay (ELISA) incorporating an immunoglobulin heavy chain binding protein or a fragment thereof.
44. **[AMENDED]** A kit for diagnosing the presence of rheumatoid arthritis in a mammalian subject, including a human subject, the kit comprising:
an amount of an isolated immunoglobulin heavy chain binding protein designated BiP(GRP78) or a fragment thereof, disposed in a suitable container.

46. **[AMENDED]** The kit of Claim 44, comprising a recombinant immunoglobulin heavy chain binding protein or a fragment thereof.

47. [AMENDED] The kit of Claim 44, comprising immunoglobulin heavy chain binding protein having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID. NO: 2 or a fragment thereof.
48. [AMENDED] The kit of Claim 44, comprising an enzyme-linked immunosorbent assay that incorporates the immunoglobulin heavy chain binding protein or the fragment thereof.
49. [AMENDED] The kit of Claim 48, comprising a recombinant immunoglobulin heavy chain binding protein or a fragment thereof.
50. [AMENDED] The kit of Claim 48, comprising a recombinant immunoglobulin heavy chain binding protein having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID. NO: 2 or a fragment thereof.
51. [AMENDED] The kit of Claim 44, comprising a Western Blot assay that incorporates the immunoglobulin heavy chain binding protein or the fragment thereof.
52. [AMENDED] The kit of Claim 51, comprising a recombinant immunoglobulin heavy chain binding protein or a fragment thereof.
53. [AMENDED] The kit of Claim 51, comprising a recombinant immunoglobulin heavy chain binding protein having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID. NO: 2 or a fragment thereof.
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54. [NEW] An isolated polypeptide having an amino acid sequence as shown in SEQ. ID. NO: 1 or SEQ. ID. NO: 2.
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